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Date: December 21, 2009

By /Marvette Ferguson/
Marvette Ferguson

Docket No. 100728-67 (K&W 67-WCG)

Client Ref. No.: CI0020US

Confirmation No.: 3497

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants : Walter Bernig et al.

Serial No. : 10/523,130

Filed : August 24, 2005

For : FILM COMPRISING A GAS BARRIER LAYER

Art Unit : 1794

Examiner : Ellen S. Wood

December 21, 2009

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPELLANTS' BRIEF ON APPEAL PURSUANT TO 37 CFR § 41.37

Sir:

This is an appeal from the final rejection of an Examiner of Art Unit 1794.

1. REAL PARTY IN INTEREST

The instant application is owned by CFS KEMPTEN GmbH, record owner hereof.

2. RELATED APPEALS AND INTERFERENCES

The undersigned is not aware of any appeals, interferences, reexaminations, infringement actions or the like in any related applications.

3. STATUS OF CLAIMS

The claims pending in this application are claims 1-5, 7-21 and 23-26, and all of said claims are on appeal.

4. STATUS OF AMENDMENTS

The last amendment was that filed electronically on November 25, 2008 together with a Request For Continued Examination, and that amendment was entered. There are no outstanding amendments.

5. SUMMARY OF THE CLAIMED SUBJECT MATTER

Independent claim 1 relates to a film comprising at least one O₂ gas barrier layer consisting substantially of a mixture of 30-45% by weight of an ethylene/vinyl alcohol copolymer (EVOH) (page 4, line 17 and page 10, table 1B) and 55-70% by weight of at least one multipolyamide (page 4, line 18 and page 10, table 1B), wherein the multipolyamide is made up of the 3 components:

- I) hexamethylenediamine/adipic acid (polyamide 6,6),
- II) hexamethylenediamine/azelaic acid (polyamide 6,9) and/or hexamethylenediamine/sebacic acid (polyamide 6,10) and
- III) hexamethylenediamine/isophthalic acid (polyamide 6,I) and/or

hexamethylenediamine/terephthalic acid (polyamide 6, T) (page 3, lines 1-10).

Independent claim 18 pertains to A packaging for perishable, gas-releasing products-which comprises the film of claim 1 (page 8, lines 28-31).

Independent claim 23 pertains to A cheese ripening pouch made from a film according to claim 1 (page 9, lines 1-3).

6. GROUNDS FOR REJECTION TO BE REVIEWED ON APPEAL

The grounds for rejection to be reviewed on appeal are whether claims 1-5, 6-13 (Appellants believe the Examiner meant 7-13), 15-21 and 23-26 are obvious under 35 U.S.C. 103(a) over Ramesh et al (US 5,763,095) in view of Edwards et al. (2002/0034622) and whether claim 14 is obvious under 35 U.S.C. 103(a) over Ramesh et al (US 5,763,095) in view of Edwards et al. (2002/0034622) in view of Vadhar (US 6,333,061)

7. ARGUMENTS

A) The rejection of claims 1-5, 6-13 (Appellants believe the Examiner meant 7-13) as obvious over Ramesh et al (US 5,763,095) in view of Edwards et al. (2002/0034622).

The Ramesh reference teaches the loss of the oxygen barrier properties with increasing relative humidity unless the amount of EVOH in a blend of EVOH and a nylon-copolymer is kept low.

The declaration of Mr. Bernig proves this effect and the surprising results achieved with the presently claimed invention. Interestingly, in the examples wherein EVOH is also used as a component in the oxygen barrier layer no oxygen transmission rates are disclosed.

Therefore, Appellants' argument that "Ramesh" discloses in column 5 that with an increasing amount of EVOH in a blend with a nylon-copolymer EVOH loses much of its oxygen barrier properties with increasing relative humidity has not been overcome by the arguments of the Examiner in the last Office Action.

Further, Appellants have pointed out with regard to the combination of the "Ramesh" reference with the "Edwards" reference that based on the disclosure of "Edwards" the advantages disclosed in the "Edwards" reference can only be achieved if **nylon 6/66** is used as polyamide in the polymer blend of the oxygen barrier layer. If other polyamides are used instead of nylon 6/66 a number of problems result.

Therefore, the statement of the Examiner that the claimed polyamides are **partly** identical with the polyamide disclosed in "Edwards" is irrelevant. According to the teaching of "Edwards" it has to be a very special polyamide, namely a polyamide 6/66, which should be the only polyamide. Therefore, it is not enough that component I of the multipolyamide claimed in claim 1 of the present application is such a polyamide.

The Edwards reference therefore does not lead a person skilled in the art to

increase the amount of EVOH in the oxygen barrier layer. This is especially true in view of the fact that the multipolyamide of the presently claimed invention is a polyamide mixture, which is completely different than the only required polyamide mentioned in the "Edwards" reference.

Ramesh teaches that the oxygen barrier of a packaging film containing a blend of EVOH is impaired because the oxygen transmission properties of such a barrier layer increases with increasing amounts of EVOH. Therefore, according to the teachings of Ramesh it is recommended that only a minor portion of EVOH be incorporated into the nylon-copolymer containing layer, if a low oxygen transmission rate of the total film structure is desired.

The foregoing teaching of Ramesh would prejudice those skilled in the art against the use of a higher amount of EVOH as a blend component with a nylon-copolymer. According to the Examples of Ramesh, wherein such a blend was used for a barrier layer, the physical properties such as oxygen transmission at different relative humidities are not addressed.

The declaration of Walter Bernig, filed on November 25, 2008, demonstrates that the presently-claimed films retain a low oxygen transmission rate even at relatively high relative humidity whereas the known multilayer film containing 20 wt.% of EVOH are very sensitive to an increase of the relative humidity as far as the oxygen transmission rate is concerned.

This is clear evidence that the presently-claimed multilayer structures have surprising advantages in comparison to the known art, which is not the result of usual scientific variations and testing by a person skilled in the art.

According to paragraph [0070] on page 6 of the Edwards (2002/0034622) reference only a certain polyamide, namely nylon 6/66, should be used for the polymer blend of the oxygen barrier layer in order to achieve the desired advantages

According to paragraph [0072] the use of other polyamides create a lot of problems.

Therefore it was totally surprising and unexpected that Appellants' multipolyamide provides a film very useful for successfully packaging perishable products.

Appellants' claims cannot therefore reasonably be seen as obvious over any combination of Ramesh and Edwards, and the rejection of claims 1-5, 6-13, 15-21 and 23-26 under 35 U.S.C. 103(a) as obvious over Ramesh et al (US 5,763,095) in view of Edwards et al. (2002/0034622) should now be Reversed.

The rejection of claim 14 under 35 U.S.C. 103(a) as obvious over Ramesh et al (US 5,763,095) in view of Edwards et al. (2002/0034622)

in view of Vadhar (US 6,333,061)

The differences between the invention defined by Appellants' claims and anything that could be derived from the Ramesh/Edwards combination of references have been discussed above.

The Examiner relies on Vadhar for a teaching of a coloring agent. No coloring agent could possibly overcome the differences discussed above, and the rejection of claim 14 under 35 U.S.C. 103(a) as obvious over Ramesh et al (US 5,763,095) in view Edwards et al. (2002/0034622) in view of Vadhar (US 6,333,061) should be REVERSED.

8. CONCLUSION

Wherefore it is submitted that the final rejection is in error and should be **REVERSED**.

AUTHORIZATION TO CHARGE FILING FEE TO DEPOSIT ACCOUNT

Appellant is:

☐ a small entity

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It is requested that the fee for the filing of the Brief on Appeal be charged to the undersigned's Deposit Account No. 14-1263.

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CONDITIONAL PETITION FOR EXTENSION OF TIME

If any extension of time for this response is required, appellant requests that this be considered a petition therefor. Please charge the required Petition fee to Deposit Account No. 14-1263.

ADDITIONAL FEE

Please charge any insufficiency of fees, or credit any excess to our Deposit Account No. 14-1263.

Respectfully submitted,
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9. CLAIMS APPENDIX

The claims are appeal read as follows:

- Claim 1. A film comprising at least one O₂ gas barrier layer consisting substantially of a mixture of 30-45 wt. % by weight of an ethylene/vinyl alcohol copolymer (EVOH) and 55-70 wt. % by weight of at least one multipolyamide, wherein the multipolyamide is made up of the 3 components
- I) hexamethylenediamine/adipic acid (polyamide 6,6),
 - II) hexamethylenediamine/azelaic acid (polyamide 6,9) and/or hexamethylenediamine/sebacic acid (polyamide 6,10) and
 - III) hexamethylenediamine/isophthalic acid (polyamide 6,I) and/or hexamethylenediamine/terephthalic acid (polyamide 6,T).
- Claim 2. A film according to claim 1, characterised in that the multipolyamide is made up of a) 15-75 mol % of component I, b) 15-65 mol % of component II and c) 10-70 mol % of component III, wherein the total quantity of components I-III must always add up to 100 mol %.
- Claim 3. A film according to claim 1, characterised in that the multipolyamide is made up of a) 15-60 mol % of component I, b) 15-55 mol % of component II and c) 10-45 mol % of component III, wherein the total quantity of components I-III must always add up to 100 mol %.
- Claim 4. A film according to claim 1, characterised in that the multipolyamide is made up of a) 35-55 mol % of component I, b) 15-55 mol % of component II and c) 10-30 mol % of component III, wherein the total quantity of components I-III must always add up to 100 mol %.

- Claim 5. A film according to claim 1, characterised in that the ethylene/vinyl alcohol copolymer consists of 20-50 mol % ethylene.
- Claim 6 (Cancelled).
- Claim 7. A film according to claim 1, characterised in that the O₂ gas barrier layer consists of a mixture of 30-40 wt. % EVOH and 60-70 wt. % multipolyamide, in each case relative to the total quantity of the mixture.
- Claim 8. A film according to claim 1, containing at least one outer layer which is heat-sealable.
- Claim 9. A film according to claim 8, characterised in that a mixture of ethylene/vinyl acetate copolymer (EVA) and LLDPE (linear low density polyethylene) is used as the outer layer material.
- Claim 10. A film according to claim 9, characterised in that a mixture of 40-65 wt. % of an ethylene/vinyl acetate copolymer and 35-60 wt. % of LLDPE, wherein the total quantity of the polymer components must always add up to 100 wt. %, is used as the heat-sealing layer material.
- Claim 11. A multilayer film according to claim 1, characterised in that it is made up of the O₂ gas barrier layer and 2 outer layers.
- Claim 12. A film according to claim 11, characterised in that the layers are in each case joined together by a coupling agent layer.
- Claim 13. A film according to claim 12, characterised in that the coupling agent layers are based on a mixture of maleic anhydride-grafted ethylene/vinyl acetate copolymer and LLDPE.

- Claim 14. A film according to claim 12, characterised in that at least one coupling agent layer is colored.
- Claim 15. A film according to claim 1, characterised in that the film is monoaxially or biaxially, drawn.
- Claim 16. A film according to claim 1, characterised in that the film comprises at least one crosslinked layer.
- Claim 17. A film according to claim 1, characterised in that the film is shrinkable.
- Claim 18. A packaging for perishable, gas-releasing products-which comprises the film of claim 1.
- Claim 19. The packaging according to claim 19 wherein said perishable, gas-releasing products are cheeses.
- Claim 20. The packaging according to claim 19 wherein said cheeses are semi-hard and/or hard cheeses.
- Claim 21. The packaging of claim 19, wherein said cheeses are still ripening.
- Claim 22 (Cancelled).
- Claim 23. A cheese ripening pouch made from a film according to claim 1
- Claim 24. The film of claim 5 wherein the ethylene/vinyl alcohol_copolymer consists of 42-48 mol % ethylene.

- Claim 25. The film of claim 24 wherein the ethylene/vinyl alcohol copolymer consists of 38-48 mol % ethylene.
- Claim 26. The film of claim 8 containing at least two outer or surface layers, at least one of which is heat-sealable.

10. EVIDENCE APPENDIX

Declaration under 37 CFR 1.132 of Walter Bernig, filed November 25, 2008

11. RELATED PROCEEDINGS APPENDIX

There have been no decisions rendered by a court or the Board in any proceeding identified pursuant to paragraph (c)(1)(ii) of 37 CFR 41.37.